

**WHAT IS CLAIMED IS:**

1. A discharge lamp comprising:

  - an envelope;
  - a discharge-sustaining fill sealed inside the envelope;
  - first and second electrodes for providing a discharge, at least the first electrode including a current carrying wire and a coil including:
    - a first coiled structure formed by winding a overwind wire around a first cylindrical member,
    - a second coiled structure formed by winding the first coiled structure around a second cylindrical member,
    - a third coiled structure formed by winding the second coiled structure around a third cylindrical member, the third cylindrical member having a diameter of at least 1.0 mm, and
    - an emitter material deposited on the coil.

2. The discharge lamp of claim 1, wherein the third cylindrical member has a diameter of at least 1.2mm.

3. The discharge lamp of claim 2, wherein the third cylindrical member has a diameter of at least 1.2–1.5mm.

4. The discharge lamp of claim 1, wherein the second coiled structure has at least 80 turns per inch.

5. The discharge lamp of claim 4, wherein the second coiled structure has at least 85 turns per inch.

6. The discharge lamp of claim 1, wherein the third coiled structure is at least 10mm in length.

7. The discharge lamp of claim 6, wherein the third coiled structure is 11-12 mm in length and the lamp is a T8 lamp.

8. The discharge lamp of claim 1, wherein the emitter material comprises an oxide selected from the group consisting of barium, strontium, calcium, zirconium, and combinations thereof.

9. A discharge lamp comprising:

an envelope;

a discharge-sustaining fill sealed inside the envelope;

first and second electrodes for providing a discharge, at least the first electrode including a coil including:

a first coiled structure formed by winding a wire around a first cylindrical member,

a second coiled structure formed by winding the first coiled structure around a second cylindrical member, the second coiled structure having coils which are spaced to provide at least 80 turns per inch (TPI), and

a third coiled structure formed by winding the second coiled structure around a third cylindrical member, and

an emitter material deposited on the coil.

10. The discharge lamp of claim 9, wherein the third cylindrical member has a diameter of 1-2 mm.

120491-022-102  
SAC-A  
cont

11. The discharge lamp of claim 10, wherein the third cylindrical member has a diameter of 1.2-1.5 mm.

12. The discharge lamp of claim 9, wherein the second coiled structure has at least 90 turns per inch.

13. The discharge lamp of claim 9, wherein the secondary coil is about 30 mm in length.

14. The discharge lamp of claim 13, wherein the amount of emitter material is 10-15mg.

15. A method for forming a coil for a fluorescent lamp, the method comprising:

winding a wire around a first cylindrical member and a current carrying wire to form a first coiled structure;

winding the first coiled structure around a second cylindrical member to form a second coiled structure; and

winding the second coiled structure around a third cylindrical member to form a third coiled structure, the third structure having a diameter of at least 1 mm; and

coating the third coiled structure with an emitter mix which, when activated, emits electrons when heated.

16. The method of claim 15, wherein the emitter mix includes carbonates selected from the group consisting of barium carbonate, calcium carbonate, strontium carbonate, and combinations thereof.

17. The method of claim 15, wherein the step of winding the first coiled structure around the second cylindrical member to form a second coiled structure includes winding the first coiled structure at a spacing which provides at least 80 turns per inch.

18. The method of claim 15, further including dissolving the first, second and third cylindrical members in an acid bath.

19. The method of claim 13, wherein the third cylindrical member has a diameter of at least 1mm.

20. The method of claim 19, wherein the third cylindrical member has a diameter of 1.2-1.5mm.

21. The method of claim 15, wherein the second coiled structure has about 90 turns per inch.

22. The method of claim 15, wherein the third coiled structure is about 11.5 mm in length.

23. The method of claim 22, wherein the step of coating the third coiled structure with an emitter mix includes coating the third coiled structure with a mixture which includes at least 9 grams of one or more carbonates.

120491-000000000000

*Jackie Gaskins*